

My parents were brought up in the post-war era of Malaysia where they did not have the opportunity to further their studies because they need to support their families. Perhaps this is the prime reason that both my parents are so concerned and enthusiastic about my education. Growing up in a family-owned furniture shop, my dad and I often worked together on assembling and modifying furniture without manuals. During my adolescent years, I had the opportunity to have my own personal computer. I spent most of my time disassembling and reassembling computer components to learn more about how these parts worked. From these, I learnt how to troubleshoot a computer by means of hardware or software. Ever since then, I have been a loyal follower of technology development especially in computers.

Computers have gone through a revolutionary journey through time. Through these advancement, there is an observable trend where the number of transistor on integrated circuit doubles every two years, which better known as Moore's Law. Today, the design of transistor on integrated circuit is in the nanoscale. As the size continue to shrink, the phenomenon of quantum tunneling become a serious obstacle in integrated circuit design because the flow of electrons cannot be controlled completely. Consequently, Moore's Law is rumored to come to an end by this decade.

A proposed way of solving this issue is to develop new materials for use in transistor design, which is my area of interest. Graphene is currently the selected candidate that might replace silicon in manufacturing of semiconductor in the near future. The question that I wish to find answer to is "How can graphene be developed into an efficient semiconductor?" Recently, a journal named "Band Gap Opening of Graphene by Noncovalent π - π Interaction with Porphyrins" was published by researchers from University of Groningen and Delft University of Technology in the Netherlands whom found ways to control the band gap of graphene. I personally believe that advancements like this is very positive to the future of graphene as semiconducting materials. My goal is to get directly involved in researches on this particular field of study. Ultimately, I hope to create semiconducting materials from graphene that are both cost and performance efficient to be utilized by end users.

However, I will need to further my studies to obtain the necessary knowledge before I can realize my objective. Therefore, if I am given the opportunity, I will be able to get one step closer to innovating everyone's lives.